

*Jpn. J. Cancer Res.*  
ISSN 0910-5050

# ***Japanese Journal of Cancer Research***

Distributed by Elsevier Science Publishers, The Netherlands & Business Center for Academic Societies Japan

**Vol. 82 1991**

**JAPANESE CANCER ASSOCIATION**

<i>Editor</i>	<b>Takashi Sugimura</b>		<i>Deputy Editor</i>	<b>Susumu Nishimura</b>	
<i>Associate Editors</i>	Kaoru Abe Yoshiyuki Hashimoto Yuzo Hayashi Nobuyuki Ito Toshio Kuroki Masanao Miwa	Tetsuo Ono Nagahiro Saijo Shozo Takayama Masaru Taniguchi Masaaki Terada Suketami Tominaga	Kumao Toyoshima Shigeru Tsukagoshi Tadashi Utakoji Mitsuaki Yoshida	<i>Language Editor</i> <i>Managing Editor</i>	W. R. S. Steele Hisae Izumo
<i>Editorial Board</i>	Mitsuyuki Abe Osahiko Abe Hitoshi Akedo Kunio Aoki Ichiro Azuma Hiroyasu Esumi Yoshiaki Fujii-Kuriyama Hirotaka Fujiki Isaburo Fujimoto Shigeyoshi Fujimoto Kei Fujinaga Setsuya Fujita Masanori Fukushima Shoji Fukushima Akira Hakura Toshiyuki Hamaoka Nobu Hattori Kenshi Hayashi Hiroyasu Hayatsu Hiroyasu Hiai Shigeo Hino Yorio Hinuma Hisamaru Hirai Setsuo Hirohashi Tomio Hirohata Iwao Hirono	Hiroo Hoshino Motoo Hozumi Akira Ichihara Masaaki Iigo Yoji Ikawa Hiroo Imura Makoto Inaba Takatoshi Ishikawa Yoshiaki Ito Tadao Kakizoe Hiroshi Kasai Takeshi Kataoka Ryuichi Kato Motoya Katsuki Takashi Kawana Kokichi Kikuchi Tomoyuki Kitagawa Yukihiko Kitamura Akira Kobata Hiroyasu Kobayashi Katsuro Koike Ryo Kominami Yoichi Konishi Yoshiyuki Kuchino Noboru Kuzumaki Hiroshi Maeda	Masatoshi Makuuchi Akio Matsukage Keishi Matsumoto Yuji Matsuoka Taijiro Matsushima Taiju Matsuzawa Shinsuke Morio Kazuo Moriwaki Tetsuichiro Muto Minako Nagao Takashi Nakajima Toshikazu Nakamura Kazuo Nitta Makoto Noda Yasuo Nomura Yoshinari Ohnishi Michio Oishi Takashi Okamoto Mitsuo Oshimura Noriyuki Sagata Masaki Saito Shigeru Sakiyama Masaharu Sakurai Motomichi Sasaki Takehiko Sasazuki Kiyomi Sato	Teruaki Sekine Takao Sekiya Masabumi Shibuya Hiroyuki Shimizu Nobuyoshi Shimizu Yukio Shimamoto Kunitada Shimotohno Masanori Shimoyama Masao Shudo Keiichi Suemasu Haruo Sugano Keizo Sugimachi Takatoshi Sugiyama Hideo Suzuki Tetsuo Taguchi Eiichi Tahara Michihito Takahashi Toshio Takahashi Toshitada Takahashi Yoshimi Takai Fumimaro Takaku Kintomo Takakura Hiraku Takebe Tomio Takeuchi Kiyoji Tanaka Tadatsugu Taniguchi	Hiroshi Tanooka Kouichi Tatsumi Yoichi Taya Tohru Tokunaga Shigeru Tsuike Takashi Tsuruo Kazuo Umezawa Keiji Wakabayashi Akira Wakui Minro Watanabe Shaw Watanabe Akira Yachi Masao Yamada Ken Yamaguchi Nobuo Yamaguchi Tadashi Yamamoto Ken-ichi Yamamura Masatoshi Yamazaki Kenjiro Yokoro Jun Yokota Michihiro C. Yoshida Osamu Yoshida Hiroshi Yoshikura
<i>Guest Editorial Members</i>	Stuart A. Aaronson Richard H. Adamson Bruce N. Ames Walter F. Bodmer R. K. Boutwell Bryn A. Bridges Bruce A. Chabner Allan H. Conney Carlo M. Croce	Vincent T. DeVita, Jr. Sándor Eckhardt Robert C. Gallo François Gros Ekkehard Grundmann Sen-itiroh Hakomori Hidesaburo Hanafusa Curtis C. Harris Brian E. Henderson	Dennis P. H. Hsieh George Klein David Korn Lawrence A. Loeb Paul A. Marks Mortimer L. Mendelsohn Enrico Mihich Robert W. Miller Luc Montagnier	N. P. Napalkov Arthur B. Pardee Henry C. Pitot Manfred F. Rajewsky Claes Ramel Thomas J. Slaga Steven R. Tannenbaum Lorenzo Tomatis Walter Troll	Alex J. van der Eb George F. Vande Woude Umberto Veronesi Peter K. Vogt Robert A. Weinberg I. Bernard Weinstein John H. Weisburger Robin A. Weiss Harald zur Hausen

# CONTENTS

Vol. 82 1991

No. 1 1-133

## RAPID COMMUNICATIONS

- 1 \*Massive Sero-epidemiological Survey of Hepatitis C Virus: Clustering of Carriers on the Southwest Coast of Tsushima, Japan  
S. Ito, M. Ito, M.-J. Cho, K. Shimotohno and K. Tajima
- 4 *In vitro* Progression-associated c-H-ras Activation in Neoplastic Hepatocyte Lines Established from SV40-T Antigen Gene-harboring Transgenic Mice  
H. Li, J. Liu, K. Nomura, G.-H. Lee, O. Hino, K. Ohtake, S. Aizawa and T. Kitagawa
- 8 Detection of Epidermal Growth Factor Receptors and E-Cadherins in the Basolateral Membrane of A431 Cells by Laser Scanning Fluorescence Microscopy  
R. Fukuyama and N. Shimizu
- 12 \*A Pulmonary Large Cell Carcinoma Cell Line Expressing Neuroendocrine Cell Markers and Human Chorionic Gonadotropin  $\alpha$ -Subunit  
K. Kasai, T. Kameya, K. Kadoya and C. Wada
- 19 \*Relation between Estrogen Receptor and Malignancy of Thyroid Cancer  
N. Takeichi, H. Ito, R. Haruta, T. Matsuyama, K. Dohi and E. Tahara
- 23 \*Expression of Membrane-associated Lymphotoxin/Tumor Necrosis Factor- $\beta$  on Human Lymphokine-activated Killer Cells  
Y. Abe, M. Miyake, A. Horiuchi, S. Kimura and Y. Hitsumoto

## REGULAR PAPERS

- 27 \*The Effect of Mass Screening for Breast Cancer: Results of a Multivariate Analysis  
T. Kuroishi, S. Tominaga, J. Ota, T. Horino, T. Taguchi, T. Ishida, T. Yokoe, M. Izuo, M. Ogita, S. Itoh, R. Abe, K. Yoshida, T. Morimoto, K. Enomoto, H. Tashiro, Y. Kashiki, S. Yamamoto, C. Kido, K. Honda, M. Sasakawa, M. Fukuda and H. Watanabe
- 33 \*Prognostic Factors for Surgically Treated Lung Adenocarcinoma Patients, with Special Reference to Smoking Habit  
T. Sobue, T. Suzuki, I. Fujimoto, O. Doi, R. Tateishi and T. Sato
- 40 \*Multiple Primary Cancers in Patients with Squamous Cell Carcinoma of the Oral Cavity  
M. Saikawa, S. Ebihara, T. Yoshizumi and W. Ohyama
- 46 Action Site of the Gene Determining Susceptibility to Propyl nitrosourea-induced Thymic Lymphomas in F344 Rats  
H. Shisa and M. Suzuki
- 51 \*Two Types of DNA Ligase I Activity in Lymphoblastoid Cells from Patients with Bloom's Syndrome  
T. Kurihara, H. Teraoka, M. Inoue, H. Takebe and K. Tatsumi
- 58 \*High-level Expression of Human c-jun Gene Causes Cellular Transformation of Chicken Embryo Fibroblasts  
T. Suzuki, Y. Hashimoto, H. Okuno, H. Sato, H. Nishina and H. Iba
- 65 \*bcl-2 Translocation in Japanese B Cell Lymphoma: Novel bcl-2 Translocation with Immunoglobulin Heavy Chain Diversity Segment  
M. Seto, H. Osada, R. Ueda, C. Ito, O. Iwaki, A. Oyama, T. Suchi and T. Takahashi
- 72 Organization of Mouse DNA Polymerase  $\beta$  Gene Silencer Elements and Identification of the Silencer-binding Factor(s)  
M. Yamaguchi, Y. Hayashi, K. Furukawa, Y. Nishimoto and A. Matsukage
- 82 \*Increased N-Acetylglucosamine-1-phosphotransferase Activity in Sera from Patients with Leukemia  
Y. Uehara, S. Gasa, A. Makita, K. Sakurada and T. Miyazaki
- 86 \*Ciliated Gastric Cells among Japanese Living in Hawaii  
C. A. Rubio, G. N. Stemmermann and T. Hayashi

\*Asterisks indicate studies on human cancer.

## CONTENTS

- 90 **A New Rat Colon Cancer Cell Line Metastasizes Spontaneously: Biologic Characteristics and Chemotherapeutic Response**  
Y. Inoue, Y. Kashima, K. Aizawa and K. Hatakeyama
- 98 **Mechanism of Metabolic Abnormality of Thyroid Hormones in Walker 256 Carcinosarcoma-bearing Rats**  
K. Murayama-Oda, K. Imamura, H-K. Kim and T. Tanaka
- 109 **Characterization of Heterogeneous Distribution of Tumor Blood Flow in the Rat**  
K. Hori, M. Suzuki, S. Tanda and S. Saito
- 118 **\*Mechanism of the Combined Antitumor Effect of Natural Human Tumor Necrosis Factor- $\alpha$  and Natural Human Interferon- $\alpha$  on Cell Cycle Progression**  
M. Muro, Y. Naomoto and K. Orita
- 127 **Novel Mechanism of N-Solaneyl-N,N'-bis(3,4-dimethoxybenzyl)ethylenediamine in Potentiation of Antitumor Drug Action on Multidrug-resistant and Sensitive Chinese Hamster Cells**  
A. Tomida, T. Tatsuta and H. Suzuki

No. 2 135-233

### RAPID COMMUNICATIONS

- 135 **Induction of Aberrant Crypt Foci in the Large Intestine of F344 Rats by Oral Administration of 2-Amino-1-methyl-6-phenylimidazo[4,5-b]pyridine**  
S. Takahashi, K. Ogawa, H. Ohshima, H. Esumi, N. Ito and T. Sugimura
- 138 **\*Establishment and Characterization of an Epithelial Cell Line with Quasi-normal Chromosomes from a Tubular Adenoma of a Familial Polyposis Coli Patient**  
T. Kawaguchi, M. Miyaki, T. Masui, M. Watanabe, H. Ohta, M. Maruyama, T. Utakoji and T. Kitagawa

### REGULAR PAPERS

- 142 **\*A Smoking Survey of College Students in India: Implications for Designing an Antismoking Policy**  
S. Gavarasana, V. P. Doddi, G. V. S. N. R. Prasad, A. Allam and B. S. R. Murthy
- 146 **Cytochrome P-450 Isozyme Pattern Is Related to Individual Susceptibility to Diethylnitrosamine-induced Liver Cancer in Rats**  
A. Aitio, M-L. Aitio, A-M. Camus, E. Cardis and H. Bartsch
- 157 **Carcinogenesis Studies of Dichlorvos in Fischer Rats and B6C3F1 Mice**  
P. C. Chan, J. Huff, J. K. Haseman, R. Alison and J. D. Prejean
- 165 **Relation of 8-Hydroxydeoxyguanosine Formation in Rat Kidney to Lipid Peroxidation, Glutathione Level and Relative Organ Weight after a Single Administration of Potassium Bromate**  
K. Sai, A. Takagi, T. Umemura, R. Hasegawa and Y. Kurokawa
- 170 **Induction of DNA Replication and Cell Growth in Rat Liver by Obstructive Jaundice**  
M. Terasaki, H. Kuriki, Y. Nimura, S. Shionoya, K. Kojima and S. Yoshida
- 176 **Provirus Integration at the 3' Region of N-myc in Cell Lines Established from Thymic Lymphomas Spontaneously Formed in AKR Mice and a [(BALB/c  $\times$  B6)F<sub>1</sub>  $\rightarrow$  AKR] Bone Marrow Chimera**  
Y. Yano, S. Kobayashi, R. Yasumizu, J. Tamaki, M. Kubo, A. Sasaki, S. Hasan, H. Okuyama, M. Inaba, S. Ikehara, H. Hiai and M. Kakinuma
- 184 **\*Topoisomerase Inhibitors Have Potent Differentiation-inducing Activity for Human and Mouse Myeloid Leukemia Cells**  
K. Nakaya, S. Chou, M. Kaneko and Y. Nakamura
- 192 **Platelet Aggregation Induced by Adenosine Diphosphate Released from Cloned Murine Fibrosarcoma Cells Is Positively Correlated with the Experimental Metastatic Potential of the Cells**  
Y. Mogi, K. Kogawa, T. Takayama, N. Yoshizaki, K. Bannai, H. Muramatsu, K. Koike, Y. Kohgo, N. Watanabe and Y. Niitsu
- 199 **\*Objective Quantification of Grade of Atypia in Epithelial Tumors of the Stomach by Image Processing**  
T. Ishido and K. Nakamura

- 206 **Release of Esterase from Murine Lymphokine-activated Killer Cells in Antibody-dependent Cellular Cytotoxic Reaction**  
K. Kato, T. Agatsuma, T. Tanabe, T. Masuko and Y. Hashimoto
- 213 **\*Human Monoclonal Antibody Detects a Cell Surface Antigen Expressed on Hematopoietic Malignant Cells of Lymphoid Lineage**  
T. Iizasa, Y. Yamaguchi, M. Tagawa, T. Fujisawa, H. Saito, H. Kondo, Y. Matsuo, J. Minowada and M. Taniguchi
- 219 **Tumor Localization and *in vivo* Antitumor Activity of the Immunoconjugate Composed of Anti-human Colon Cancer Monoclonal Antibody and Mitomycin C-Dextran Conjugate**  
A. Noguchi, T. Takahashi, T. Yamaguchi, K. Kitamura, Y. Takakura, M. Hashida and H. Sezaki
- 227 **Preparation of Recombinant Protein A-Lymphotoxin Chimeric Protein and Its Antitumor Effects in Mice**  
T. Miki, M. Wada, T. Kasumimoto, R. Moriyama and Y. Iwasaki
- \* \* \* \* \*
- 233 **Erratum**

## No. 3

235-362

## RAPID COMMUNICATIONS

- 235 **Production and Effect of Infectious Dane Particles in Transgenic Mice**  
K. Araki, S. Nishimura, T. Ochiya, K. Okubo, J. Miyazaki, K. Matsubara and K. Yamamura
- 240 **\*Verification of HTLV-I Infection in the Solomon Islands by Virus Isolation and Gene Amplification**  
R. Yanagihara, A. B. Ajdukiewicz, V. R. Nerurkar, R. M. Garruto and D. C. Gajdusek
- 245 **\*Higher Frequency of Point Mutations in the c-K-ras 2 Gene in Human Colorectal Adenomas with Severe Atypia than in Carcinomas**  
M. Ando, M. Maruyama, M. Oto, K. Takemura, M. Endo and Y. Yuasa
- 250 **Correlation between Physiological and Transforming Activities of the c-mos Proto-oncogene Product and Identification of an Essential Mos Domain for These Activities**  
K. Okazaki, N. Furuno, N. Watanabe, Y. Ikawa, G. F. Vande Woude and N. Sagata
- 254 **\*Association between Restriction Fragment Length Polymorphism of the Human Cytochrome P450IIE1 Gene and Susceptibility to Lung Cancer**  
F. Uematsu, H. Kikuchi, M. Motomiya, T. Abe, I. Sagami, T. Ohmachi, A. Wakui, R. Kanamaru and M. Watanabe
- 257 **\*Macrophage-T Cell Interaction Is Essential for the Induction of p75 Interleukin 2 (IL-2) Receptor and IL-2 Responsiveness in Human CD4<sup>+</sup> T Cells**  
Y. Nakamura, T. Nishimura, Y. Tokuda, N. Kobayashi, K. Watanabe, T. Noto, T. Mitomi, K. Sugamura and S. Habu
- 262 **Antigen-presenting Cells Constitutively Bind Tumor Antigens in the Tumor-bearing State *in vivo* to Construct an Effective Immunogenic Unit**  
J. Shimizu, J-P. Zou, K. Ikegame, H. Fujiwara and T. Hamaoka

## REGULAR PAPERS

- 266 **\*Geographical Variance in the Risk of Gastric Stump Cancer: No Increased Risk in Japan?**  
A. C. Tersmette, F. M. Giardiello, G. J. A. Offerhaus, K. W. F. Tersmette, K. Ohara, J. P. Vandenbroucke and G. N. J. Tytgat
- 273 **\*Lung Cancer Risk among Exsmokers**  
T. Sobue, T. Suzuki, I. Fujimoto, M. Matsuda, O. Doi, T. Mori, K. Furuse, M. Fukuoka, T. Yasumitsu, O. Kuwahara, M. Ichitani, T. Taki, M. Kuwabara, K. Nakahara, S. Endo, K. Sawamura, M. Kurata and S. Hattori

## CONTENTS

- 280 **Protective Effect by Potassium Chloride against Gastric Carcinogenesis Induced by N-Methyl-N'-nitro-N-nitrosoguanidine in Spontaneously Hypertensive Rats**  
M. Tatsuta, H. Iishi, M. Baba, M. Ichii, A. Nakaizumi, H. Uehara and H. Taniguchi
- 286 **Trial to Induce Prostatic Cancer in ACI/Seg Rats Treated with a Combination of 3,2'-Dimethyl-4-aminobiphenyl and Ethinyl Estradiol**  
K. Takai, T. Kakizoe, Y. Tanaka, K. Tobisu and Y. Aso
- 293 **Age-dependent Induction of Preneoplastic Liver Cell Foci by 2-Acetylaminofluorene, Phenobarbital and Acetaminophen in F344 Rats Initially Treated with Diethylnitrosamine**  
R. Hasegawa, S. Takahashi, K. Imaida, S. Yamaguchi, T. Shirai and N. Ito
- 298 **Heterogeneity of Cloned Cell Lines Established from a Transplantable Rat Malignant Fibrous Histiocytoma**  
J. Yamate, M. Tajima, M. Togo, K. Shibuya, M. Ihara and S. Kudow
- 308 **\*Point Mutation of c-Ki-ras Oncogene in Gastric Adenoma and Adenocarcinoma with Tubular Differentiation**  
T. Kihana, H. Tsuda, T. Hirota, Y. Shimosato, H. Sakamoto, M. Terada and S. Hirohashi
- 315 **Purification of Ornithine Decarboxylase-inducing Factor from Cell-free Ascites Fluid of Ehrlich Ascites Tumor and Its Characteristics**  
K. Imamura, Z. Wang, K. Murayama-Oda, H-K. Kim, T. Tsuji and T. Tanaka
- 325 **\*Inhibitory Effect of 8-Chloro-cyclic Adenosine 3',5'-Monophosphate on Cell Growth of Gastric Carcinoma Cell Lines**  
A. Takanashi, W. Yasui, K. Yoshida, H. Yokozaki, D. Saito, K. Abe, K. Urakami, K. Miki and E. Tahara
- 332 **Characterization and Purification of an Immunosuppressive Factor Produced by a Small Cell Lung Cancer Cell Line**  
T. Ikeda, T. Masuno, T. Ogura, M. Watanabe, T. Shirasaka, H. Hara, Y. Tanio, I. Kawase and S. Kishimoto
- 339 **\*Cytological Characteristics of Human Glioma-infiltrating Lymphocytes Stimulated with Recombinant Interleukin 2 and an Anti-CD3 Antibody**  
T. Kikuchi, M. Watanabe and T. Ohno
- 346 **Effect of Co-administration of Granulocyte Colony-stimulating Factor on Interferon Therapy**  
K. Segawa, Y. Suhara, Y. Ueno and T. Kataoka
- 351 **Enhancement by Verapamil of Neocarzinostatin Action on Multidrug-resistant Chinese Hamster Ovary Cells: Possible Release of Nonprotein Chromophore in Cells**  
Y. Miyamoto and H. Maeda
- 357 **\*Proliferative Activity of Human Tumors: Assessment Using Bromodeoxyuridine and Flow Cytometry**  
T. Shimomatsuya, N. Tanigawa and R. Muraoka

---

No. 4                      363-482

### RAPID COMMUNICATIONS

- 363 **Induction of Intestinal Adenocarcinomas by 2-Amino-1-methyl-6-phenylimidazo[4,5-b]pyridine in Nagase Analbuminemic Rats**  
M. Ochiai, K. Ogawa, K. Wakabayashi, T. Sugimura, S. Nagase, H. Esumi and M. Nagao
- 367 **\*Improvement of Gelatin Particle Agglutination Test for Detection of Anti-HTLV-I Antibody**  
R. Fujino, K. Kawato, M. Ikeda, H. Miyakoshi, M. Mizukoshi and J. Imai
- 371 **\*Chromosomal Insertion and Amplification of Human Papillomavirus 16 DNA Sequences in a Cell Line of Argyrophil Small Cell Carcinoma of the Uterine Cervix**  
T. Hori, H. Ichimura, M. Minamihisamatsu, E. Takahashi, M. Yamauchi, Y. Hama, O. Kurimura, M. Yamasaki and T. Kurimura
- 376 **Overexpression of c-Myc Inhibits the Appearance of a Specific DNase I Hypersensitive Site in the  $\beta$ -Globin Chromatin in Murine Erythroleukemia Cells**  
S. Takada and M. Obinata



## REGULAR PAPERS

- 380 **Quantitative Risk Assessment of Carcinogenicity of Urethane (Ethyl Carbamate) on the Basis of Long-term Oral Administration to B6C3F<sub>1</sub> Mice**  
K. Inai, K. Arihiro, Y. Takeshima, S. Yonehara, Y. Tachiyama, N. Khatun and T. Nishisaka
- 386 **Inhibitory Effect of 2-O-Octadecylascorbic Acid in Agglutination Assay with Concanavalin A; Short-term Examination of Rat Urinary Bladder Carcinogenesis**  
M. Suzuki, K. Wakabayashi, H. Sone, H. Kushida, K. Sugiyama, T. Kakizoe, M. Nagao and T. Sugimura
- 390 **Enhancing Effect of a Choline-deficient Diet on Alterations of Hepatic Drug-metabolizing Enzymes in Hepatitis- and Hepatoma-predisposed Rats (LEC Rats)**  
T. Sugiyama, M. Matsunaga, S. K. Jain, S. Jain, Y. Ikeda and N. Taniguchi
- 397 **Appearance of a Carcinoid-like Pattern in Rat Hepatic Tumors Induced by 3'-Methyl-4-dimethyl-aminoazobenzene**  
Y. Karaki, S. Munakata, T. Saeki, S. Hirota and M. Fujimaki
- 403 **\*Quantitative Assay of Epidermal Growth Factor Receptor in Human Squamous Cell Carcinomas of the Oral Region by an Avidin-Biotin Method**  
T. Kawamoto, K. Takahashi, M. Nishi, T. Kimura, T. Matsumura and S. Taniguchi
- 411 **\*Use of Universal and Type-specific Primers in the Polymerase Chain Reaction for the Detection and Typing of Genital Human Papillomaviruses**  
H. Maki, S. Saito, T. Ibaraki, M. Ichijo and O. Yoshie
- 420 **\*Changes in Hematologic Parameters during Treatment with Medroxyprogesterone Acetate for Breast Cancer**  
H. Yamamoto, S. Noguchi, K. Miyauchi, H. Inaji, S. Imaoka, H. Koyama and T. Iwanaga
- 426 **\*Four Forms of Cytochrome P-450 in Human Fetal Liver: Purification and Their Capacity to Activate Promutagens**  
M. Kitada, M. Taneda, K. Itahashi and T. Kamataki
- 433 **Sequence-dependent Termination of Mammalian DNA Polymerase Reaction by a New Platinum Compound, (-)-(R)-2-Aminomethylpyrrolidine(1,1-cyclobutane-dicarboxylato)-2-platinum(II) Monohydrate**  
M. Iwata, S. Izuta, M. Suzuki, K. Kojima, Y. Furuhashi, Y. Tomoda and S. Yoshida
- 440 **In vivo Tumor Growth Enhancement by Granulocyte Colony-stimulating Factor**  
K. Segawa, Y. Ueno and T. Kataoka
- 448 **T Cell Receptor-independent Cell-mediated Cytotoxicity by Nude Mouse Lymphokine-activated Killer Cells**  
T. Nishimura, Y. Togashi, N. Wakamiya, Y. Hashimoto, H. Yagita, K. Okumura and S. Habu
- 456 **Establishment of Mouse Lymphokine-activated Killer Cell Clones and Their Properties**  
K. Kato, N. Sato, T. Tanabe, H. Yagita, T. Agatsuma and Y. Hashimoto
- 464 **Augmentation by Tumor Necrosis Factor  $\alpha$  of the Systemic Therapeutic Effect of Lymphokine-activated Killer Cells in Adoptive Immunotherapy of Murine Tumor**  
K. Kato, T. Tanabe, T. Agatsuma, S. Suzuki, H. Nitani and Y. Hashimoto
- 470 **The Effect of Interferon on Carcinogenesis by N-Ethyl-N'-nitro-N-nitrosoguanidine in the Duodenum of Mice**  
T. Yamane, Y. Fujita, Y. Sagara, T. Takahashi and J. Imanishi
- 476 **Antitumor Activity of Fluoropyrimidines and Thymidylate Synthetase Inhibition**  
T. Kubota, S. Fujita, S. Kodaira, T. Yamamoto, K. Josui, Y. Arisawa, A. Suto, K. Ishibiki, O. Abe, K. Mabuchi and M. Fuse

---

No. 5      483-620

## RAPID COMMUNICATIONS

- 483 **\*Possible Underestimation of the Incidence Rate of Prostate Cancer in Japan**  
H. Shimizu, R. K. Ross and L. Bernstein
- 486 **Hereditary Low Level of Plasma Ceruloplasmin in LEC Rats Associated with Spontaneous Development of Hepatitis and Liver Cancer**  
T. Ono, S. Abe and M. C. Yoshida

# CONTENTS

- 490 **Abnormal Copper Accumulation in Non-cancerous and Cancerous Liver Tissues of LEC Rats Developing Hereditary Hepatitis and Spontaneous Hepatoma**  
Y. Li, Y. Togashi, S. Sato, T. Emoto, J-H. Kang, N. Takeichi, H. Kobayashi, Y. Kojima, Y. Une and J. Uchino
- 493 **Serum Requirement for *in vitro* Invasion by Tumor Cells**  
F. Imamura, T. Horai, M. Mukai, K. Shinkai and H. Akedo

## REGULAR PAPERS

- 497 **\*Smoking Habits and Carcinoma of the Stomach: A Case-Control Study**  
S. K. Saha
- 503 **Different Effects of Carbon Tetrachloride on Carcinogen-induced Hepatocellular Carcinoma and Normal Liver of the Rat: Lowered Lipid Peroxidation and Accelerated Necrosis in Cancer**  
N. Lertprasertsuke, M. Shinoda, S. Takekoshi, Y. Tsutsumi, Y. Yamamoto, E. Niki and K. Watanabe
- 511 **Induction of Transplantable Tumors by Repeated Subcutaneous Injections of Natural and Synthetic Vitamin E in Mice and Rats**  
Y. Nitta, K. Kamiya, M. Tanimoto, S. Sadamoto, O. Niwa and K. Yokoro
- 518 **Promotion of BALB/3T3 Cell Transformation by the Okadaic Acid Class of Tumor Promoters, Okadaic Acid and Dinophysistoxin-1**  
A. Sakai and H. Fujiki
- 524 **\*Detection and Typing of Multiple Genital Human Papillomaviruses by DNA Amplification with Consensus Primers**  
H. Yoshikawa, T. Kawana, K. Kitagawa, M. Mizuno, H. Yoshikura and A. Iwamoto
- 532 **\*Relatively Low Prevalence of Human Papillomavirus 16, 18 and 33 DNA in the Normal Cervices of Japanese Women Shown by Polymerase Chain Reaction**  
A. Nishikawa, M. Fukushima, M. Shimada, Y. Yamakawa, S. Shimano, I. Kato and K. Fujinaga
- 539 **Alteration of Physiological Activity of Activated Macrophages through L-Arginine Metabolism**  
M. Takema, K. Inaba, K. Okazaki, K. Uno, K. Tawara and S. Muramatsu
- 547 **\*Multipotent and Committed CD34<sup>+</sup> Cells in Bone Marrow Transplantation**  
H. Ema, T. Suda, H. Nakauchi, Y. Nakamura, A. Iwama, S. Imagawa, M. Akutsu, Y. Kano, S. Kato, M. Yabe, M. Yoshida, S. Sakamoto, Y. Amemiya and Y. Miura
- 553 **\*Effects of Lactogenic Hormones on Morphological Development and Growth of Human Breast Epithelial Cells Cultivated in Collagen Gels**  
K. Takahashi, K. Suzuki, S. Kawahara and T. Ono
- 559 **\*Immunohistochemical Expression of Blood Group Substances and Related Carbohydrate Antigens in Breast Carcinoma**  
T. Nakagoe, K. Fukushima, M. Hirota, H. Kusano, K. Kawahara, H. Ayabe, M. Tomita and S. Kamihira
- 569 **\*Potential Value of Cetylmannoside-modified Liposomes as Carriers of Macrophage Activators to Human Blood Monocytes**  
C. Yamashita, S. Sone, T. Ogura and H. Kiwada
- 577 **Expression of a Rat Ovary-independent Mammary Tumor-associated Antigen Defined by a Monoclonal Antibody, TAK-B1**  
K. Takahashi, H. Yoshida, S. Sonoda, A. Yoshida, Y. Umekita, Y. Ohi and S. Oneda
- 585 **\*Suppressive Activity of Interleukin 4 on the Induction of Antigen-specific Cytotoxic T Cells in Humans**  
U. Yamashita and Y. Tanaka
- 593 **\*Establishment of Drug Resistance in Human Gastric and Colon Carcinoma Xenograft Lines**  
T. Satta, K. Isobe, M. Yamauchi, I. Nakashima, S. Akiyama, K. Itou, T. Watanabe and H. Takagi
- 599 **\*Photodynamic Cell Killing Effects and Acute Skin Photosensitivity of Aluminum-chloro-tetrasulfonated Phthalocyanine and Hematoporphyrin Derivative**  
K. Komatsu
- 607 **\**In vitro* Chemosensitivity Test of Human Gastric Carcinomas Using Collagen Gel Matrix**  
S. Ohyama, M. Tanaka, Y. Yonemura, K. Kinoshita, I. Miyazaki and T. Sasaki



- 613 \*A Cooperative Randomized Study on Tegafur plus Mitomycin C versus Combined Tegafur and Uracil plus Mitomycin C in the Treatment of Advanced Gastric Cancer  
M. Kurihara, T. Izumi, S. Yoshida, T. Ohkubo, S. Suga, A. Kiyohashi, T. Yaosaka, H. Takahashi, T. Ito, T. Sasai, T. Akiya, S. Akazawa, T. Betsuyaku and S. Taguchi

No. 6

621-753

## RAPID COMMUNICATION

- 621 \*A New Form of Specific Targeting Cancer Immunotherapy Using Anti-tumor Monoclonal Antibody-conjugated Lymphokine-activated Killer Cells  
H. Shiraiwa, T. Sekine, K. Tobisu, T. Kakizoe and K. Koiso

## REGULAR PAPERS

- 624 \*Work-related Bladder Cancer Risks in Male Japanese Workers: Estimation of Attributable Fraction and Geographical Correlation Analysis  
N. Yamaguchi, S. Watanabe, T. Okubo and K. Takahashi
- 632 Initiating Activity of Diethylnitrosamine in a Rapid Production Model for Pancreatic Carcinomas in Syrian Hamsters  
T. Amanuma, K. Mizumoto, M. Tsutsumi, T. Tsujiuchi, S. Kitazawa, K. Hasegawa, A. Denda, H. Maruyama and Y. Konishi
- 638 Promoting Effect of Sodium Chloride Solution Mist on the Induction of Papillomas on Syrian Hamster Tracheal Mucosa Following Administration of Diethylnitrosamine  
T. Karube, H. Katayama, K. Takemoto and S. Watanabe
- 642 Modifying Effects of Various Chemicals on Preneoplastic and Neoplastic Lesion Development in a Wide-spectrum Organ Carcinogenesis Model Using F344 Rats  
S. Fukushima, A. Hagiwara, M. Hirose, S. Yamaguchi, D. Tiwawech and N. Ito
- 650 Time- and Dose-dependent Induction of Invasive Urinary Bladder Cancers by N-Ethyl-N-(4-hydroxybutyl)-nitrosamine in B6C3F<sub>1</sub> Mice  
S. Tamano, A. Hagiwara, E. Suzuki, M. Okada, T. Shirai and S. Fukushima
- 657 Sex Differences in *o*-Phenylphenol and Sodium *o*-Phenylphenate Rat Urinary Bladder Carcinogenesis: Urinary Metabolites and Electrolytes under Conditions of Aciduria and Alkalineuria  
R. Hasegawa, M. Fukuoka, T. Takahashi, A. Yamamoto, S. Yamaguchi, M.-A. Shibata, A. Tanaka and S. Fukushima
- 665 Cytosolic-nuclear Tumor Promoter-specific Binding Protein: Association with the 90 kDa Heat Shock Protein and Translocation into Nuclei by Treatment with 12-O-Tetradecanoylphorbol 13-Acetate  
Y. Hashimoto and K. Shudo
- 676 Epigenetic Control of Tumor Cell Morphology  
K. Horio, H. Yoshikura, M. Kawabata, T. Odawara, K. Sudo, Y. Fujitani, G. Lee and A. Iwamoto
- 686 \*Methylation and Expression of Human Pepsinogen Genes in Normal Tissues and Their Alteration in Stomach Cancer  
M. Ichinose, K. Miki, R. N. S. Wong, M. Tatematsu, C. Furihata, T. Konishi, M. Matsushima, M. Tanji, J. Sano, K. Kurokawa, T. Takahashi, T. Kageyama, J. J. N. Tang and K. Takahashi
- 693 \*Characterization of a 54 kDa,  $\alpha_1$ -Antitrypsin-like Protein Isolated from Ascitic Fluid of an Endometrial Cancer Patient  
N. Tanaka, S. Sekiya, H. Takamizawa, N. Kato, Y. Moriyama and S. Fujimura
- 701 \*Rapid Growth and Spontaneous Metastasis of Human Germinal Tumors Ectopically Transplanted into Scid (Severe Combined Immunodeficiency) and Scid-nude<sup>tm</sup> Mice  
T. Nomura, Y. Takahama, T. Hongyo, H. Takatera, H. Inohara, H. Fukushima, S. Ono and T. Hamaoka
- 710 \*A Case of Cervical Carcinoma of the Uterus Presenting with Hyperosmolar Non-ketotic Coma as a Manifestation of Ectopic Adrenocorticotrophic Hormone Syndrome  
Y. Shirahige, T. Watanabe, Y. Oki, T. Sonoda and I. Adachi

## CONTENTS

- 716 \*Interleukin-2-inducible Killer Activity and Its Regulation by Blood Monocytes from Autologous Lymphocytes of Lung Cancer Patients  
S. Sone, E. Kunishige, F. Fawzy, H. Yanagawa, A. Nii, K. Maeda, S. Atagi, Y. Heike, Y. Nishioka, K. Mizuno and T. Ogura
- 724 Toxicological and Tumorcidal Evaluations of a New Platinum Complex, (-)-(R)-2-Aminomethylpyrrolidine-(1,1-cyclobutanedicarboxylato)platinum(II) Monohydrate, in Rats  
K. Akamatsu, K. Endo, T. Matsumoto, K. Morikawa, M. Koizumi, K. Koizumi and H. Mitsui
- 732 \*Kinin-generating Cascade in Advanced Cancer Patients and *in vitro* Study  
Y. Matsumura, K. Maruo, M. Kimura, T. Yamamoto, T. Konno and H. Maeda
- 742 Competitive Binding Radioassay for the Determination of 5-Fluorodeoxyuridine and 5-Fluorodeoxyuridine-5'-monophosphate Levels in Plasma and Tumor Tissue  
S. Miyata, H. Mikami, M. Tai, T. Hori and H. Fujita
- 747 \*Reversal of Cisplatin Resistance with Amphotericin B in a Non-small Cell Lung Cancer Cell Line  
T. Morikage, M. Bungo, M. Inomata, M. Yoshida, T. Ohmori, Y. Fujiwara, K. Nishio and N. Saijo

\* \* \* \* \*

- 752 Obituary: Yuichi Yamamura (1918-1990)  
T. Kishimoto

---

No. 7 755-873

### RAPID COMMUNICATIONS

- 755 \**In vitro* Anti-human Immunodeficiency Virus Type 1 Activity of Biliverdin, a Bile Pigment  
H. Mori, T. Otake, M. Morimoto, N. Ueba, N. Kunita, T. Nakagami, N. Yamasaki and S. Taji
- 758 Inhibition of the Action of a Stimulatory GDP/GTP Exchange Protein for *smg* p21 by Acidic Membrane Phospholipids  
S. Kawamura, K. Kaibuchi, M. Hiroyoshi, H. Fujioka, T. Mizuno and Y. Takai

### REGULAR PAPERS

- 762 \*Second Primary Cancer after Diagnosis of Stomach Cancer in Osaka, Japan  
T. Hiyama, A. Hanai and I. Fujimoto
- 771 Effect of Alcohol Ingestion on Carcinogenesis by Synthetic Estrogen and Progestin in the Rat Liver  
K. Yamagiwa, S. Higashi and R. Mizumoto
- 779 Pendolmycin, a New Tumor Promoter of the Teleocidin A Class on Skin of CD-1 Mice  
S. Nishiwaki, H. Fujiki, S. Yoshizawa, M. Suganuma, H. Furuya-Suguri, S. Okabe, M. Nakayasu, K. Okabe, H. Muratake, M. Natsume, K. Umezawa, S. Sakai and T. Sugimura
- 784 Organ-specific Modification of Tumor Development by Low-dose Combinations of Agents in a Rat Wide-spectrum Carcinogenesis Model  
S. Fukushima, M. Shibata, M. Hirose, T. Kato, M. Tatamatsu and N. Ito
- 793 Effects of 3-Aminobenzamide on Induction of Multiorgan Carcinogenesis by N-Nitrosobis(2-hydroxypropyl)-amine in Hamsters  
T. Tsujiuchi, M. Tsutsumi, A. Denda, T. Amanuma, S. Kondoh, K. Kamino and Y. Konishi
- 800 Changes in Carboxylesterase Isoenzymes of Rat Liver Microsomes during Hepatocarcinogenesis  
T. Maki, M. Hosokawa, T. Satoh and K. Sato
- 807 Induction of Glutathione S-Transferase P-Form in Primary Cultured Rat Hepatocytes by Epidermal Growth Factor and Insulin  
I. Hatayama, Y. Yamada, K. Tanaka, A. Ichihara and K. Sato

- 815 **Stimulatory Effects of Retinoic Acid on Tumor Growth and Serum Insulin-like Growth Factor-1 in Rats Bearing Estrogen-responsive Pituitary Tumor MtT/Se**  
B. Roy, P. O. Ogundigie, N. Fujimoto and A. Ito
- 820 **\*Relation between Nucleolar Size and Growth Characteristics in Small Cell Lung Cancer Cell Lines**  
T. Matsumoto, T. Terasaki, K. Mukai, M. Wada, A. Okamoto, J. Yokota, K. Yamaguchi, K. Kato, T. Nagatsu and Y. Shimamoto
- 829 **\*Analysis of Cytosolic Phosphoethanolamine and Ethanolamine and Their Correlation with Prognostic Factors in Breast Cancer**  
T. Kano-Sueoka, T. Watanabe, T. Miya and H. Kasai
- 835 **\*Nuclear p53 Immunoreaction Associated with Poor Prognosis of Breast Cancer**  
K. Iwaya, H. Tsuda, H. Hiraide, K. Tamaki, S. Tamakuma, T. Fukutomi, K. Mukai and S. Hirohashi
- 841 **Characterization of the Individual and Cross-reactive Antigens Involved in the Anti-tumor Immunity Induced by Use of an *H-2K-erbB* Recombinant Gene Transfectant**  
L. Ding, T. Yoshida, K. Isobe, S. M. J. Rahman, F. Nagase, T. Yokochi, K. Kawashima and I. Nakashima
- 848 **\*Malignant Cell Detection in Burkitt's Lymphoma Using Third-complementarity-determining Region (CDRIII), Clone-specific Probe Developed by Sequencing DNA from Stored Slides**  
M. Asada, T. Miyashita, F. Bessho, N. Kobayashi and S. Mizutani
- 854 **\*A New CA125-like Antigen (CA602) Recognized by Two Monoclonal Antibodies against a Newly Established Ovarian Clear Cell Carcinoma Cell Line (RMG-II)**  
S. Nozawa, M. Yajima, H. Sasaki, K. Tsukazaki, D. Aoki, M. Sakayori, Y. Udagawa, T. Kobayashi, I. Sato, S. Furusako and H. Mochizuki
- 862 **\*Detection of Bone-type Alkaline Phosphatase by Monoclonal Antibodies Reacting with Human Osteosarcoma-associated Antigen**  
S. Nagoya, T. Uede, T. Wada, S. Ishii, S. Yamawaki and K. Kikuchi

## LETTER TO THE EDITOR

- 871 **Risk of Gastric Remnant Cancer in Japan**  
S. Tokudome

\* \* \* \* \*

- 873 **Erratum**

No. 8

875-963

## RAPID COMMUNICATIONS

- 875 **\*Parathyroid Tumors in Atomic Bomb Survivors in Hiroshima: Epidemiological Study from Registered Cases at Hiroshima Prefecture Tumor Tissue Registry, 1974-1987**  
N. Takeichi, K. Dohi, H. Yamamoto, H. Ito, K. Mabuchi, T. Yamamoto, K. Shimaoka and K. Yokoro
- 879 **\*Detection of Hepatitis C Virus Infection by Enzyme-linked Immunosorbent Assay System Using Core Protein Expressed in *Escherichia coli***  
K. Muraio, M. Hijikata, N. Kato, K. Shimotohno, N. Okazaki, S. Ohkoshi, M. Uura, S. Kaneko, K. Kobayashi, M. Omata, H. Ohnishi, Y. Mutou and N. Hattori
- 883 **\*Establishment of an  $\alpha$ -Fetoprotein-producing Gastric Cancer Cell Line in Serum-free Media**  
M. Terashima, K. Ikeda, C. Maesawa, H. Kawamura, Y. Niitsu, M. Satoh and K. Saito
- 886 **\*Allele Loss on Chromosome 11 in a Pituitary Tumor from a Patient with Multiple Endocrine Neoplasia Type 1**  
K. Yoshimoto, H. Iwahana, K. Kubo, S. Saito and M. Itakura

- 890 \*Co-production of Interleukin-1 and Interleukin-6 in Tumor Cell Lines Elaborating Colony-stimulating Factors  
Y. Okuno, T. Takahashi, A. Suzuki, M. Fukumoto, K. Nakamura and H. Imura

# REGULAR PAPERS

- 893 \*Familial Aggregation of Cancer from Proband Cases with Childhood Adrenal Cortical Carcinoma  
Y. Tsunematsu, S. Watanabe, T. Oka, T. Tsukamoto, K. Kawa-Ha, Y. Hirata, H. Yamanaka, M. Ohira and M. Ono
- 901 Proline Is Required for Transcriptional Control of the Aromatic Hydrocarbon-inducible P<sub>450</sub> Gene in C57BL/6 Mouse Monolayer-cultured Hepatocytes  
N. Nemoto and J. Sakurai
- 909 \*Accumulation of p60<sup>src</sup> in HTLV-I-transformed T Cell Lines Detected by an Anti-Lck Monoclonal Antibody, MOL 171  
Y. Moroi, Y. Koga, K. Nakamura, M. Ohtsu, G. Kimura and K. Nomoto
- 916 \*Chromosome Changes in Desmoid Tumors Developed in Patients with Familial Adenomatous Polyposis  
M. A. Yoshida, T. Ikeuchi, T. Iwama, M. Miyaki, T. Mori, Y. Ushijima, A. Hara, M. Miyakita and A. Tonomura
- 922 \*Evidence of Sex Difference in DNA Synthesis in Hepatocellular Carcinoma  
K. Tarao, A. Shimizu, M. Harada, T. Ono, Y. Kuni, S. Ohkawa, Y. Ito, S. Tamai, K. Iimori, Y. Sugimasa, S. Takemiya, T. Okamoto, T. Inoue and M. Kanisawa
- 927 \*Establishment and Characterization of a New Spontaneous Metastasis Model of Human Gastric Carcinoma in Nude Mice  
H. Nakanishi, K. Yasui, S. Yamagata, S. Shimizu, S. Ando and S. Hosoda
- 934 \*Abnormal Expression of Blood Group-related Antigens in Uterine Endometrial Cancers  
K. Tsukazaki, M. Sakayori, H. Arai, K. Yamaoka, S. Kurihara and S. Nozawa
- 942 Enhancement of the Antitumor Effect of Glucose Oxidase by Combined Administration of Hydrogen Peroxide Decomposition Inhibitors Together with an Oxygenated Fluorocarbon  
Y. Higuchi, S. Shoin and S. Matsukawa
- 950 \*Antitumor Effect of Recombinant Human Interleukin-2 on the Growth of Murine Hemangioendothelioma D14 in Nude Mice: Occurrence of Large Granular Cells in the Tumor  
Y. Sakura, T. Houkan, K. Ootsu and A. Shino
- 958 Comparison of the Effects of Intravenously Bolus-administered Endothelin-1 and Infused Angiotensin II on the Subcutaneous Tumor Blood Flow in Anesthetized Rats  
S. Tanda, K. Hori, S. Saito, M. Shinozaki, Q-H. Zhang and M. Suzuki

---

No. 9 965-1055

# RAPID COMMUNICATIONS

- 965 Ki-ras Activation in Pancreatic Carcinomas of Syrian Hamsters Induced by N-Nitrosobis(2-hydroxy-propyl)amine  
T. Ushijima, M. Tsutsumi, R. Sakai, Y. Ishizaka, F. Takaku, Y. Konishi, M. Takahashi, T. Sugimura and M. Nagao
- 969 \*Expression of *cripto*, a Novel Gene of the Epidermal Growth Factor Family, in Human Gastrointestinal Carcinomas  
H. Kuniyasu, K. Yoshida, H. Yokozaki, W. Yasui, H. Ito, T. Toge, F. Ciardiello, M. G. Persico, T. Saeki, D. S. Salomon and E. Tahara

# REGULAR PAPERS

- 974 \*A Case-Control Study of Stomach Cancer and Its Genesis in Relation to Alcohol Consumption, Smoking, and Familial Cancer History  
K. Tominaga, Y. Koyama, M. Sasagawa, M. Hiroki and M. Nagai

- 980 **Local and Systemic Carcinogenic Effects of Alkylating Carcinogens in Rats Treated by Intravesicular Administration**  
W. Lijinsky, B. J. Thomas and R. M. Kovatch
- 987 **Inhibition by Xiao-chai-hu-tang (TJ-9) of Development of Hepatic Foci Induced by N-Nitrosomorpholine in Sprague-Dawley Rats**  
M. Tatsuta, H. Iishi, M. Baba, A. Nakaizumi and H. Uehara
- 993 **Structure-Function Relationships of Microcystins, Liver Tumor Promoters, in Interaction with Protein Phosphatase**  
R. Nishiwaki-Matsushima, S. Nishiwaki, T. Ohta, S. Yoshizawa, M. Suganuma, K. Harada, M. F. Watanabe and H. Fujiki
- 997 **Transforming Activity of a Synthetic c-Ha-ras Gene Containing *O*-Methylguanine in Codon 12**  
H. Kamiya, K. Miura, N. Ohtomo, S. Nishimura and E. Ohtsuka
- 1003 **\*Frequent Loss of Heterozygosity at the MCC Locus on Chromosome 5q21-22 in Sporadic Colorectal Carcinomas**  
Y. Miki, I. Nishisho, Y. Miyoshi, A. Horii, H. Ando, T. Nakajima, J. Utsunomiya and Y. Nakamura
- 1008 **\*Effects of Glucocorticoids and Calcitonin on Parathyroid Hormone-related Protein (PTHrP) Gene Expression and PTHrP Release in Human Cancer Cells Causing Humoral Hypercalcemia**  
K. Kasono, O. Isozaki, K. Sato, Y. Sato, K. Shizume, K. Ohsumi and H. Demura
- 1015 **\*Morphometrical Analysis of Structural Abnormality of Tubular Tumors of the Stomach with Image Processing**  
T. Ishido, H. Yamaguchi, S. Yoshida, S. Tonouchi and K. Nakamura
- 1022 **\*Localization of Acidic and Basic Fibroblast Growth Factor mRNA in Human Brain Tumors**  
Y. Akutsu, T. Aida, S. Nakazawa and G. Asano
- 1028 **Augmentation and Suppression of Release of Tumor Necrosis Factor from Macrophages by Negatively Charged Phospholipids**  
S. Yui and M. Yamazaki
- 1035 **\*Characterization of an Etoposide-resistant Human K562 Cell Line, K/eto**  
I. Sugawara, T. Iwahashi, K. Okamoto, Y. Sugimoto, H. Ekimoto, T. Tsuruo, T. Ikeuchi and S. Mori
- 1044 **\*Lysis of Fresh Human Tumor Cells by Autologous Peripheral Blood Lymphocytes and Tumor-infiltrating Lymphocytes Activated by PSK**  
Y. Kariya, N. Okamoto, T. Fujimoto, N. Inoue, T. Kihara, K. Sugie, M. Yagita, H. Kanzaki, T. Mori and A. Uchida
- 1051 **\*Cytotoxic Effects of Vitamin A in Combination with Vincristine, Daunorubicin and 6-Thioguanine upon Cells from Lymphoblastic Leukemic Patients**  
R. Pieters, D. R. Huismans, A. H. Loonen, K. Hählen and A. J. P. Veerman

---

No. 10      1057-1174

#### RAPID COMMUNICATIONS

- 1057 **\*c-Ki-ras Point Mutations in Ductectatic-type Mucinous Cystic Neoplasms of the Pancreas**  
A. Yanagisawa, Y. Kato, K. Ohtake, T. Kitagawa, K. Ohashi, M. Hori, K. Takagi and H. Sugano
- 1061 **Quercetin Induces Recombinational Mutations in Cultured Cells as Detected by DNA Fingerprinting**  
S. Suzuki, T. Takada, Y. Sugawara, T. Muto and R. Kominami

## CONTENTS

- 1065 **Cytostatic Effect of Deoxyspergualin on a Murine Leukemia Cell Line L1210**  
M. Hiratsuka, H. Kuramochi, K. Takahashi, T. Takeuchi and M. Oshimura

## REGULAR PAPERS

- 1069 **\*Sensitivity and Specificity of Lung Cancer Screening in Osaka, Japan**  
T. Sobue, T. Suzuki, M. Matsuda, T. Horai, A. Kajita, K. Kuriyama, M. Fukuoka,  
Y. Kusunoki, M. Kikui, S. Ryu and I. Fujimoto
- 1077 **Timing Effects of Uracil-induced Urolithiasis on Amplification of Second-stage Promotion in Rat Bladder Carcinogenesis**  
M.-A. Shibata, R. Hasegawa, M. Sano, T. Shirai and S. Fukushima
- 1085 **Promotion of Rat Hepatocarcinogenesis by Praziquantel**  
T. Shirai, K. D. Joong, K. Hakoi, W. Thamavit, C. Pairojkul, T. Hoshiya, R. Hasegawa and  
N. Ito
- 1089 **Inhibitory Effect of Dietary Perilla Oil Rich in the n-3 Polyunsaturated Fatty Acid  $\alpha$ -Linolenic Acid on Colon Carcinogenesis in Rats**  
T. Narisawa, M. Takahashi, H. Kotanagi, H. Kusaka, Y. Yamazaki, H. Koyama, Y. Fukaura,  
Y. Nishizawa, M. Kotsugai, Y. Isoda, J. Hirano and N. Tanida
- 1097 **\*Loss of Heterozygosity on Chromosome 1p in Thyroid Adenoma and Medullary Carcinoma, but not in Papillary Carcinoma**  
K. Kubo, K. Yoshimoto, Y. Yokogoshi, M. Tsuyuguchi and S. Saito
- 1104 **Effects of Methylthioadenosine and Its Analogs on *in vitro* Invasion of Rat Ascites Hepatoma Cells and Methylation of Their Phospholipids**  
J. Kido, Y. Ashida, K. Shinkai, H. Akedo, A. Isoai, H. Kumagai and H. Inoue
- 1112 **Inhibitory Effect of Fibronectin and Its Recombinant Polypeptides on the Adhesion of Metastatic Melanoma Cells to Laminin**  
I. Saiki, T. Makabe, J. Yoneda, J. Murata, Y. Ishizaki, F. Kimizuka, I. Kato and I. Azuma
- 1120 **Recombinant Fusion Polypeptide with Cell- and Heparin-binding Domains of Fibronectin Inhibits Liver Metastasis of L5178Y-ML25 Lymphoma Cells**  
I. Saiki, Y. Matsumoto, J. Murata, T. Makabe, J. Yoneda, H. Okuyama, F. Kimizuka,  
Y. Ishizaki, I. Kato and I. Azuma
- 1130 **\*Inhibitory Effect of Antimetastatic Fusion Polypeptide of Human Fibronectin on Tumor Cell Adhesion to Extracellular Matrices**  
Y. Matsumoto, I. Saiki, T. Makabe, J. Yoneda, J. Murata, F. Kimizuka, Y. Ishizaki, I. Kato  
and I. Azuma
- 1139 **Adhesion Molecules on Murine Lymphokine-activated Killer Cells Responsible for Target Cell Killing: A Role of CD2**  
K. Kato, T. Tanabe, H. Yagita, T. Agatsuma, H. Hojo and Y. Hashimoto
- 1145 **Comparative Pharmacokinetic Properties of Murine Monoclonal Antibody A7 Modified with Neocarzinostatin, Dextran and Polyethylene Glycol**  
K. Takashina, K. Kitamura, T. Yamaguchi, A. Noguchi, A. Noguchi, H. Tsurumi  
and T. Takahashi
- 1151 **\*Identification and Characterization of Three DNA-binding Proteins on the Promoter of the Human *MDR1* Gene in Drug-sensitive and -resistant Cells**  
M. Ogura, T. Takatori, Y. Sugimoto and T. Tsuruo
- 1160 **\*Long-lasting Accumulation of Vinblastine in Inostamycin-treated Multidrug-resistant KB Cells**  
M. Kawada and K. Umezawa
- 1165 **\*Chick Embryo Assay as Chemosensitivity Test for Malignant Glioma**  
K. Shoin, J. Yamashita, F. Enkaku, T. Sasaki, M. Tanaka and Y. Endo
- 1171 **\*Effects of Tumor Necrosis Factor and Hyperthermia on Meth-A Tumors**  
M. Hiraoka, Y. P. Li, K. Tsutsui, M. Abe and Y. Miyachi



## RAPID COMMUNICATIONS

- 1175 **Induction of Signet Ring Cell Carcinomas in X-Irradiated Hypocatalasemic Mice (C3H/C<sub>3</sub>)**  
H. Watanabe, P. O. Ogundigie, T. Takahashi, T. Ishimoto and A. Ito
- 1178 **\*Transformation of CD8<sup>+</sup> T-Cells Producing a Strong Cytopathic Effect on CD4<sup>+</sup> T-Cells through Syncytium Formation by HTLV-II**  
K. Miyamoto, T. Kamiya, J. Minowada, N. Tomita and K. Kitajima
- 1184 **\*Presence of Human Papillomavirus Type 18 DNA in a Pharyngeal and a Laryngeal Carcinoma**  
H. Ogura, S. Watanabe, K. Fukushima, Y. Masuda, T. Fujiwara and Y. Yabe
- 1187 **\*Detection of Human Papillomavirus Type 16 in Sexual Partners of Patients Having Cervical Cancer by Polymerase Chain Reaction**  
A. Nakazawa, M. Inoue, M. Fujita, O. Tanizawa and A. Hakura
- 1191 **\*Regulation of Human *hst* Expression by an Enhancer Element Residing in the Third Exon**  
A. Sasaki, M. Kubo, S. Hasan, Y. Yano and M. Kakinuma
- 1196 **\*Human Granulocyte-Macrophage Colony-stimulating Factor Is a Growth Factor Active on Human Ovarian Cancer Cells**  
G. Cimoli, P. Russo, G. Billi, G. L. Mariani, E. Rovini and M. Venturini
- 1199 **\*Effects of Hormones on Tumor Growth and Immunoreactive Insulin-like Growth Factor-1 of Estrogen Receptor-positive Human Breast Cancer (MCF-7) Transplanted in Nude Mice**  
M. Noguchi, N. Koyasaki, I. Miyazaki and Y. Mizukami
- 1203 **\*Human Tumor-infiltrating Lymphocytes Transfected with Tumor Necrosis Factor Gene Could Augment Cytotoxicity to Autologous Tumor Cells**  
Y. Itoh, Y. Kohgo, N. Watanabe, Y. Kanisawa, S. Sakamaki, M. Takahashi, Y. Hirayama, H. Ono, T. Himeno and Y. Niitsu
- 1207 **\*Bispecific Antibody-directed Antitumor Activity of Human CD4<sup>+</sup> Helper/Killer T Cells Induced by Anti-CD3 Monoclonal Antibody plus Interleukin 2**  
T. Nishimura, Y. Nakamura, Y. Takeuchi, X. Gao, Y. Tokuda, K. Okumura and S. Habu

## REGULAR PAPERS

- 1211 **Induction of Renal Cell Tumors in Rats and Mice, and Enhancement of Hepatocellular Tumor Development in Mice after Long-term Hydroquinone Treatment**  
M-A. Shibata, M. Hirose, H. Tanaka, E. Asakawa, T. Shirai and N. Ito
- 1220 **Summation Effects of Uracil and Other Promoters on Epithelial Lesion Development in the F344 Rat Urinary Bladder Initiated by N-Butyl-N-(4-hydroxybutyl)nitrosamine**  
J. L. V. de Camargo, T. Shirai, T. Kato, M. Asamoto and S. Fukushima
- 1226 **Hepatocarcinogenesis in Transgenic Mice Carrying Albumin-promoted SV40 T Antigen Gene**  
O. Hino, T. Kitagawa, K. Nomura, K. Ohtake, L. Cui, Y. Furuta and S. Aizawa
- 1234 **Inhibitory Effect of Sarcophytol A on Development of Spontaneous Hepatomas in Mice**  
O. Yamauchi, M. Omori, M. Ninomiya, M. Okuno, H. Moriwaki, M. Suganuma, H. Fujiki and Y. Muto
- 1239 **\*Activation and Suppression of a Cryptic Promoter in the Intron of the Human Melanoma-associated ME491 Antigen Gene**  
N. Takahashi, H. Hotta and M. Homma
- 1245 **\*Appearance of Malignant Phenotype with Partial Loss of Hormone Dependency in Androgen-dependent Shionogi Carcinoma 115 Transfected with *hst-1* Gene**  
Y. Furuya, N. Sato, Y. Watabe and J. Shimazaki
- 1252 **\*Newly Established Uterine Cervical Carcinoma Cell Line with Co-amplification of Human Papillomavirus DNA and *c-myc* Gene**  
M. Gotoh, T. Nakajima, J. Yokota, Y. Tsunokawa, M. Terada, Y. Shimoyama, S. Teshima, S. Hirohashi and Y. Shimosato

## CONTENTS

- 1258 \*Discrimination of Mitotic Cells Using Anti-p105 Monoclonal Antibody to Analyze the Mode of Action of Etoposide and Podophyllotoxin in Human Gastric Cancer Cells  
S. Ohyama, Y. Yonemura, K. Tsugawa, I. Miyazaki, M. Tanaka and T. Sasaki
- 1263 \*Characterization of High-Molecular-Mass Forms of Basic Fibroblast Growth Factor Produced by Hepatocellular Carcinoma Cells: Possible Involvement of Basic Fibroblast Growth Factor in Hepatocarcinogenesis  
Y. Shimoyama, M. Gotoh, Y. Ino, M. Sakamoto, K. Kato and S. Hirohashi
- 1271 \*Assessment of New Macroscopical Classification of Gastric Malignant Lymphoma  
T. Ishido, M. Nishizawa, Y. Nishimata and K. Nakamura
- 1277 N<sup>1</sup>-Methylnicotinamide Level in the Blood after Nicotinamide Loading as Further Evidence for Malignant Tumor Burden  
K. Nakagawa, M. Miyazaki, K. Okui, N. Kato, Y. Moriyama and S. Fujimura
- 1284 \*Prognostic Significance of Circulating Immune Complexes in Cancer Patients  
T. K. Dass, M. Aziz and A. Rattan
- 1292 Antitumor Effector Mechanism of Interleukin-1 $\beta$  at a Distant Site in the Double Grafted Tumor System  
T. Ebina and K. Murata
- 1299 Murine Tumor Cells Metastasizing Selectively in the Liver: Ability to Produce Hepatocyte-activating Cytokines Interleukin-1 and/or -6  
K. Takeda, N. Fujii, Y. Nitta, H. Sakihara, K. Nakayama, H. Rikiishi and K. Kumagai
- 1309 Fluctuations in Tumor Blood Flow under Normotension and the Effect of Angiotensin II-induced Hypertension  
K. Hori, M. Suzuki, S. Tanda, S. Saito, M. Shinozaki and Q-H. Zhang
- 1317 Antitumor Activity and Metabolism of a New Anthracycline-containing Fluorine (ME2303) in Lewis Lung Carcinoma-bearing Mice  
M. Iigo, A. Hoshi, H. Kadosawa and M. Fujigaki

No. 12 1323-1471

### REVIEWS

- 1323 The Need for Epidemiological Studies of the Medical Exposures of Japanese Patients to the Carcinogen Ethyl Carbamate (Urethane) from 1950 to 1975  
J. A. Miller
- 1325 \*P450 and Human Cancer  
K. Kawajiri and Y. Fujii-Kuriyama

### RAPID COMMUNICATIONS

- 1336 Inhibition of Azoxymethane-induced Colon Carcinogenesis in Rat by Green Tea Polyphenol Fraction  
T. Yamane, N. Hagiwara, M. Tateishi, S. Akachi, M. Kim, J. Okuzumi, Y. Kitao, M. Inagake, K. Kuwata and T. Takahashi
- 1340 \*Tumorigenic Transformation of Primary Rat Embryonal Fibroblasts by Human Papillomavirus Type 8 E7 Gene in Collaboration with the Activated H-ras Gene  
T. Nishikawa, T. Yamashita, T. Yamada, H. Kobayashi, A. Ohkawara and K. Fujinaga
- 1344 A Tubule Cell Line Established from Transgenic Mice Harboring Temperature-sensitive Simian Virus 40 Large T-Antigen Gene  
N. Yanai, T. Satoh, S. Kyo, K. Abe, M. Suzuki and M. Obinata
- 1349 \*Flow Cytometric Measurements of Somatic Cell Mutations in Thorotrast Patients  
S. Umeki, S. Kyoizumi, Y. Kusunoki, N. Nakamura, M. Sasaki, T. Mori, Y. Ishikawa, J. B. Cologne and M. Akiyama
- 1354 \*A Possible Error in the Interpretation of Gastric Carcinoma  
C. Rubio, T. Hirota, M. Itabashi, S. Hirohashi and Y. Kato

## REGULAR PAPERS

- 1356 **\*Second Primary Cancers Following Colon and Rectal Cancer in Osaka, Japan**  
H. Tanaka, T. Hiyama, A. Hanai and I. Fujimoto
- 1366 **\*Cancer Incidence in Hawaiian Japanese: Migrants from Okinawa Compared with Those from Other Prefectures**  
G. N. Stemmermann, A. M. Y. Nomura, P-H. Chyou, I. Kato and T. Kuroishi
- 1371 **Renal Pelvic Carcinoma which Shows Metastatic Potential to Distant Organs, Induced by N-Butyl-N-(4-hydroxybutyl)nitrosamine in NON/Shi Mice**  
T. Murai, S. Mori, M. Hosono, Y. Takeuchi, T. Ohara, S. Makino, R. Takeda, Y. Hayashi and S. Fukushima
- 1378 **Synergistic Enhancement of Glutathione S-Transferase Placental Form-positive Hepatic Foci Development in Diethylnitrosamine-treated Rats by Combined Administration of Five Heterocyclic Amines at Low Doses**  
R. Hasegawa, T. Shirai, K. Hakoi, K. Takaba, S. Iwasaki, T. Hoshiya, N. Ito, M. Nagao and T. Sugimura
- 1385 **Possible Application to Medium-term Organ Bioassays for Renal Carcinogenesis Modifiers in Rats Treated with N-Ethyl-N-hydroxyethylnitrosamine and Unilateral Nephrectomy**  
Y. Hiasa, N. Konishi, S. Nakaoka, M. Nakamura, S. Nishii, Y. Kitahori and M. Ohshima
- 1391 **Rapid Induction of Endometrial Carcinoma in ICR Mice Treated with N-Methyl-N-nitrosourea and 17 $\beta$ -Estradiol**  
K. Niwa, T. Tanaka, H. Mori, Y. Yokoyama, T. Furui, H. Mori and T. Tamaya
- 1397 **Enhancing Potential of 6 Different Carcinogens on Multi-organ Tumorigenesis after Initial Treatment with N-Methyl-N-nitrosourea in Rats**  
S. Uwagawa, H. Tsuda, T. Inoue, Y. Tagawa, T. Aoki, M. Kagawa, T. Ogiso and N. Ito
- 1406 **\*Detection of Human Antibody against the Human Papillomavirus Type 16 E7 Protein**  
M. Hashido, T. Kanda, S. Zanma, S. Watanabe, N. Komiyama, H. Yoshikawa, N. Yamaguchi, T. Kawana and K. Yoshiike
- 1413 **Tissue Distribution of Mouse Mammary Tumor Virus (MMTV) Antigens and New Endogenous MMTV Loci in Japanese Laboratory Mouse Strains**  
W. Wajjwalku, M. Takahashi, O. Miyaishi, J. Lu, K. Sakata, T. Yokoi, S. Saga, M. Imai, M. Matsuyama and M. Hoshino
- 1421 **\*Genetic Alteration of p53 in Some Patients with Adult T-Cell Leukemia**  
H. Nagai, T. Kinoshita, J. Imamura, Y. Murakami, K. Hayashi, K. Mukai, S. Ikeda, K. Tobinai, H. Saito, M. Shimoyama and K. Shimotohno
- 1428 **\*Aberrant Elevation of Tyrosine-specific Phosphorylation in Human Gastric Cancer Cells**  
E. Takeshima, M. Hamaguchi, T. Watanabe, S. Akiyama, M. Kataoka, Y. Ohnishi, H. Xiao, Y. Nagai and H. Takagi
- 1436 **Estrogen Receptor Levels and Tumor Growth in a Series of Pituitary Clonal Cell Lines in Rats**  
N. Fujimoto, H. Watanabe, A. Ito and K. Inoue
- 1442 **Effects of the Tumor Inhibitor IKP-104, a 4(1H)-Pyridinone Derivative, on Cytoskeletal Microtubules of Cultured Tumor Cells**  
F. Mizuhashi, K. Murata, T. Kitagaki and I. Tomita

\* \* \* \* \*

- 1448 **Covers of This Volume**